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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/808,482	03/25/2004	Stephen Bennett Elliott		5753

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Stephen Bennett Elliott
702 Buffalo Springs Drive
Allen, TX 75013

04/10/2007

EXAMINER

SCHAETZLE, KENNEDY

ART UNIT	PAPER NUMBER
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3766

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/10/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/808,482

Applicant(s)

ELLIOTT, STEPHEN BENNETT

Examiner

Kennedy Schaetzle

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Objections

1. Claims 1-27 are objected to because of the following informalities: The method claims should include steps in the present tense rather than the past tense (e.g., "...selecting a musical composition; incorporating an audible cue with a 5.88 second interval into said musical composition..." rather than "...by which a 5.88 second interval is incorporated into musical composition...") in order to more clearly distinguish and set forth the steps of the method. Claim 24 is narrative in form. Claims must be drafted in single sentence format. Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 1, 25 and 26, it is not clear what steps the applicant is attempting to set forth. The claim appears to simply recite desired results (i.e., "...for the purpose of...").

In claim 5 it is unclear what constitutes "...present state of the art tempos." The same comment applies to claim 13.

Claim 13 refers to the system of claim 6, yet claim 6 is drawn to a method, making it unclear if the applicant is attempting to claim a method or an apparatus. Similar comments apply to equally confusing claims 15-18.

Also in claim 13, the meaning of the phrase, "...discrete instance of Maelzel's Metronome..." is vague and confusing.

In claim 15 it is unclear what it means to "incorporate" novel tempos into metronome control systems, user interfaces, or output interfaces.

In claim 16 it is unclear what a synthesizer of the "hardware-optimized" or "software-optimized" variety constitutes. A similar comment applies to claim 23.

Claim 22 is confusing. It is not clear how a metronome uniquely identifies various beats as being of "special significance."

Double Patenting

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1-24 and 27 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 2, 4-12 and 14-20 of copending Application No. 10/802,456. Although the conflicting claims are not

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identical, they are not patentably distinct from each other because the claims of the present invention are for the most part merely broader in scope than those of the '456 application. If the applicant were to obtain a patent on a species or more specific embodiment, he is not entitled to receive a patent for the generic or broader invention (see *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993)). The use of music to provide an audible cue for controlled breathing is old and well-known by those of ordinary skill in the biofeedback arts. Furthermore, any rhythmic or even non-rhythmic audible signal can be considered "music" depending on the subjective tastes of the listener.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim 1 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 11, 13 and 17-24 of copending Application No. 10/814,035. Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 1 of the present invention is merely broader in scope than those of the '456 application. If the applicant were to obtain a patent on a species or more specific embodiment, he is not entitled to receive a patent for the generic or broader invention (see *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993)).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 101

6. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. Claims 1 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 1 appears to relate only to the composition of music without any recitation of steps such that one can practice the method. It is recommended that the applicant recite the actual steps taken to compose and create the music rather than merely intended or desired results. Suggested steps would include the step of monitoring heart rate variability and breathing rate.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claim 1 is rejected under 35 U.S.C. 102(b) as being clearly anticipated by Gavish (Pat. No. 5,076,281).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 1-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Evans (Pub. No. 2004/0225340 A1) in view of Gavish.

Evans discloses a method wherein cues are contained for the purpose of synchronizing the breathing cycle for the purpose of synchronizing the heart rate variability cycle with the breathing cycle (see pars. 0018 and 0019). While Evans does not specifically discuss the use of music, he does teach that in other embodiments of the invention, optical signals and/or audio signals may be included to pace breathing (see par. 0045). Gavish discloses a related device wherein it is taught that musical cues can be used to synchronize breathing. Gavish also teaches that such synchronization can be controlled not only with musical patterns, but also with optical signals or a combination of optical signals and acoustical patterns (col. 2, lines 34-40). Music has long been recognized by mankind to aid in breathing and relaxation exercises. Given this knowledge and the suggestion by Evans to use audio signals, as well as Gavish's teaching in a substantially similar device to enlist music to control breathing, those of ordinary skill in the art would have considered the use of music in the method of Evans to be obvious.

Regarding claim 2, note par. 0019. While Evans does not explicitly refer to a 5.88 second interval, studies on slow breathing indicate that an approximate rate of one breath every 10 seconds (an inhale or an exhale approximately every 5 seconds) can enhance heart rate variability (par. 0019). Since both Evans and the applicant are working towards the same goal of optimizing heart rate variability, it stands to reason

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that the exact interval used in the practice of the invention would depend on routine experimentation and optimization of parameters. Furthermore, the reason one incorporates such an interval into their invention (i.e., for the purposes of proving listeners and singers with musical breathing cues) fails to saliently distinguish over the steps disclosed in the prior art.

Regarding claim 3 and claims directed to the importance of various tempos, Evans clearly places importance on such intervals as elaborated above. It is unclear what step of the present invention is actually involved in noting tempos to be of import. Furthermore, Gavish shows in Fig. 3B the use of tempos of $T'/4$ or $3/4 T'$ that are evenly divisible into the period of the exhale cycle, T'_{ex} . Gavish teaches that the use of different tempos and tones (for alternating intervals of inhalation and exhalation) helps to eliminate monotony (col. 4, lines 48-68). The creation of a more interesting music pattern to eliminate boredom clearly is an advantage that encourages one to use the device. To incorporate different tempos into the method of Evans would have therefore been considered a matter of obvious design to make the practice more desirable to the user.

Regarding the number of tempos used such as set forth in claim 4, there does not appear to be any criticality in the exact number of novel tempos used. Further, Gavish does not emphasize any particular number of tempos, as apparently the number is not critical to the practice of the invention. Since a goal of Gavish is to produce interesting musical patterns, the exact number of tempos used would have been

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considered a matter of designer prerogative with the listener ultimately deciding which pattern is most pleasing.

Regarding claims directed to the use of metronomes or synthesizers, Evans does not specifically discuss how the audio signal is produced. Gavish discloses the use of a synthesizer to produce the necessary musical patterns for synchronized breathing. The particular manner in which the audio signal is produced is of no criticality to the invention. The important feature is simply to provide the user with the necessary tones, musical patterns or audio cues to optimize heart rate variability. Metronomes (analog or digital) and synthesizers have long been used to provide pacing signals and/or assist in the creation and composition of music. To use any of the known instruments to provide the appropriate audio signal to the user would have been considered obvious to those of ordinary skill in the art, with the particular instrument being a matter of obvious design and listener prerogative.

Regarding claims drawn to the particular number of beats recognized by a metronome or synthesizer, once the basic idea of musically synchronizing breathing with heart rate variability has been established, lacking any unexpected results or criticality, the details associated with the number of beats used to bring about such synchronization would have been considered a matter of routine experimentation to determine the most effective sound pattern in accomplishing the intended goal.

Regarding claim 24, all music is either live or recorded. To provide instructions or to demonstrate an unfamiliar method to a potential user would clearly be necessary in order for the novice to understand how to use the invention. The examiner also

wishes to point out that claim 24 is of such breadth that it would read on any composition of music that was at least 5.88 seconds in length and that was played to an individual (much like in a "name that tune" game).

Regarding claims 25 and 26, given the almost limitless variety in songs involving choirs, duets, quartets, etc., where one or more singers may solo or sing in combination with other singers while still further singers rest and inhale, it is almost axiomatic that at least one song in the whole of human history involves people alternately singing in approximately 5.88 second intervals. Nonetheless, as stated above, once the idea of controlling ones breathing to synchronize with natural heart rate variability has been established, the exact manner in which the 5.88 second interval is established, whether optically, tactilely, audibly, etc., whether by singing, speaking, chanting, meditating, game playing, etc., is simply a means to an end. The exact manner in which one decides to control the individual to accomplish the end goal is an obvious decision best left to the designer and the preferences of the individual under treatment. The applicant has not disclosed that any one tactic has significant advantage over any other suitable tactic, lending further support to the above position.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kennedy Schaetzle whose telephone number is 571 272-4954. The examiner can normally be reached on M-F from 9:30 -6:00.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Layno can be reached on M-F at 571 272-4949. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KJS
March 30, 2007



KENNEDY SCHAETZLE
PRIMARY EXAMINER